

The “Cold Chain” and U.S.-to-China Agricultural Transportation



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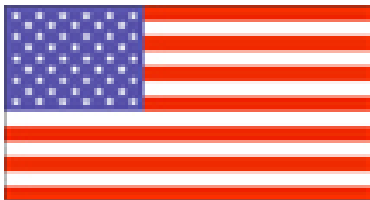
Shipper and Exporter Assistance

AMS/USDA

September 2000

U.S.-to-China Agricultural Transportation

- Shipping patterns
- Shipping costs
- Effective transport management (increase service/lower costs)
- Industry trends
- Postharvest handling: The “Cold Chain”







U.S.-to-China: Top Exports

(excluding Hong Kong)

Commodity	TEUs	%
Hides, leather	5,080	15%
Animal feed	4,689	14%
Frozen poultry	3,973	12%
Cotton	2,629	8%
Fishmeal	2,560	8%
Frozen potatoes	2,130	6%
Frozen fish	2,054	6%
Dairy products	1,603	5%
Seeds	992	3%
Grocery items	913	3%
Other	6,215	19%
Total	32,839	100%

January-December 1999, PIERS Data, Journal of Commerce

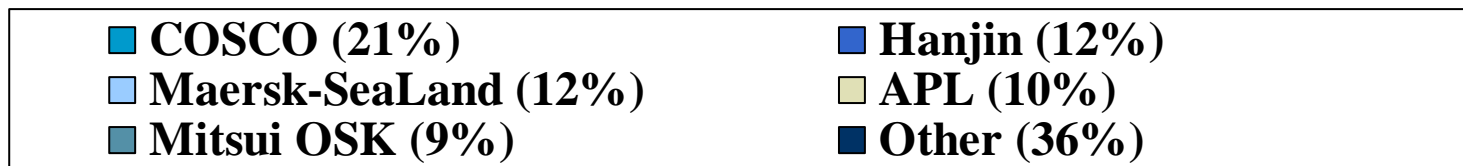
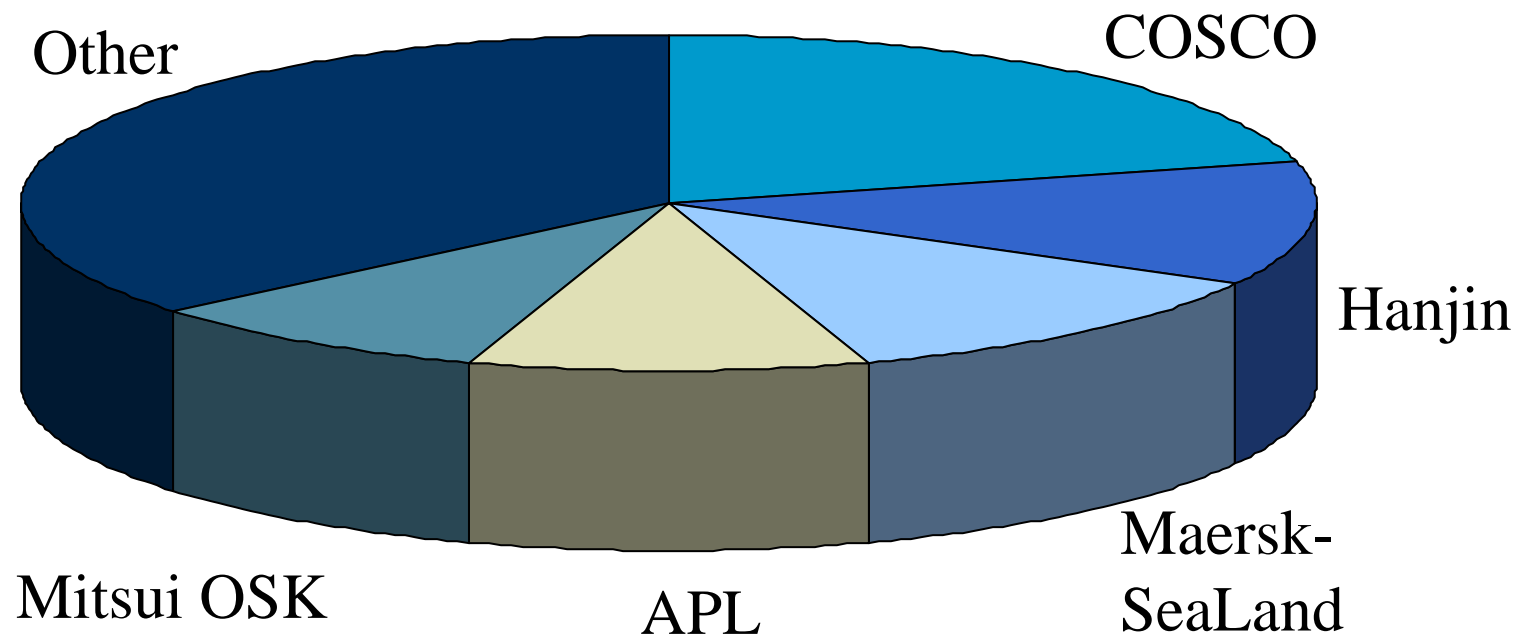


U.S.-to-Hong Kong: Top Exports

Commodity	TEUs	%
Frozen poultry	67,565	49%
Fresh fruit	12,869	9%
Vegetables	9,381	7%
Grocery items	7,048	5%
Hides, leather	6,817	5%
Beef	4,672	3%
Fresh oranges	4,411	3%
Dairy products	4,013	3%
Cotton	3,508	3%
Nuts	1,715	1%
Other ag commodities	16,423	12%
Total	138,421	100%

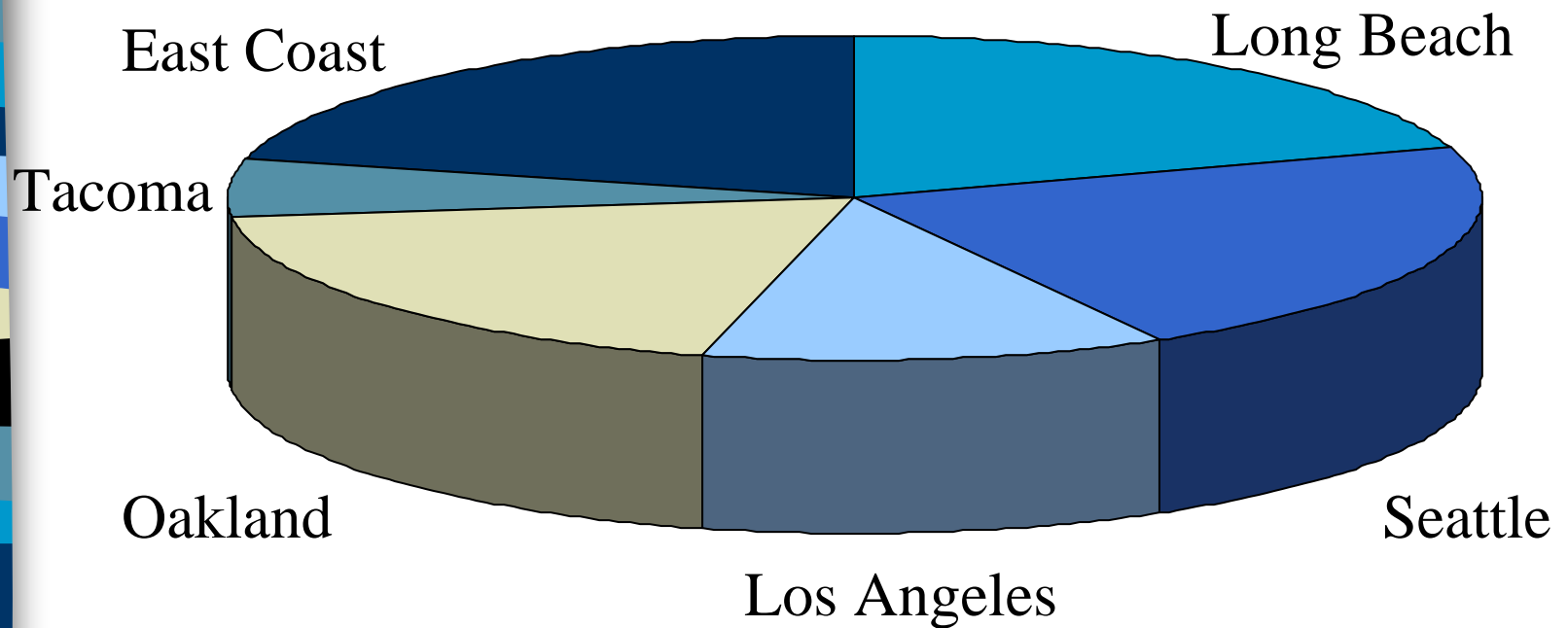
January-December 1999, PIERS Data, Journal of Commerce

U.S.-to-China: Top Shipping Lines



Source: PIERS, Journal of Commerce, NY, 1999

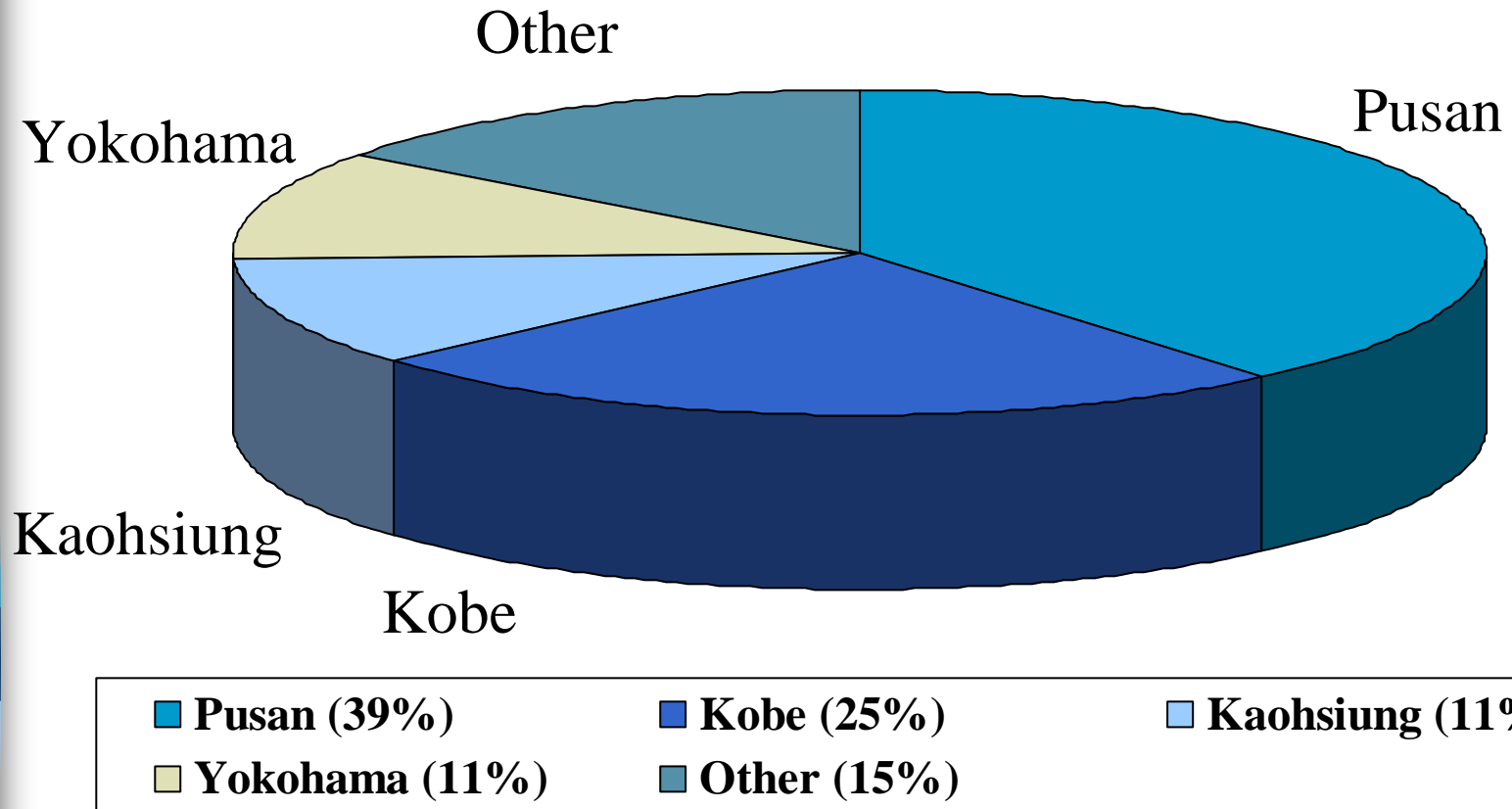
U.S.-to-China: Departure Ports



■ Long Beach (20%)	■ Seattle (22%)	■ Los Angeles (12%)
■ Oakland (19%)	■ Tacoma (6%)	■ East Coast (21%)

Source: PIERS, Journal of Commerce, NY, 1999

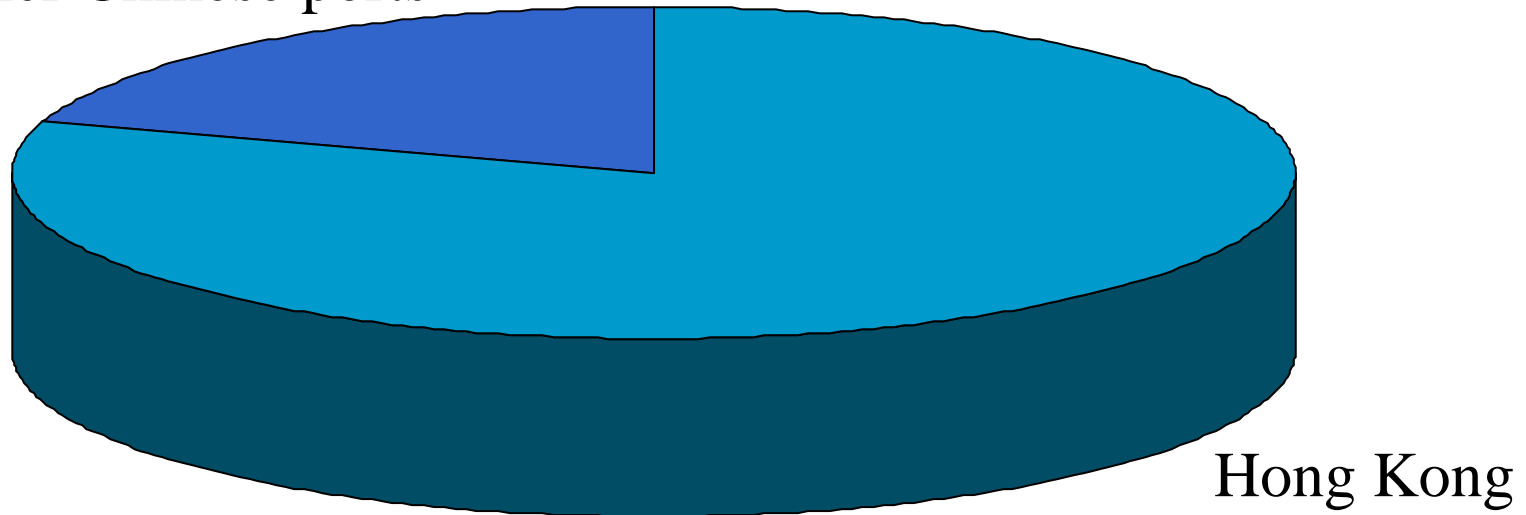
U.S.-to-China: Transshipment Ports



Source: PIERS, Journal of Commerce, NY, 1999

U.S.-to-China: Hong Kong's Share

Other Chinese ports

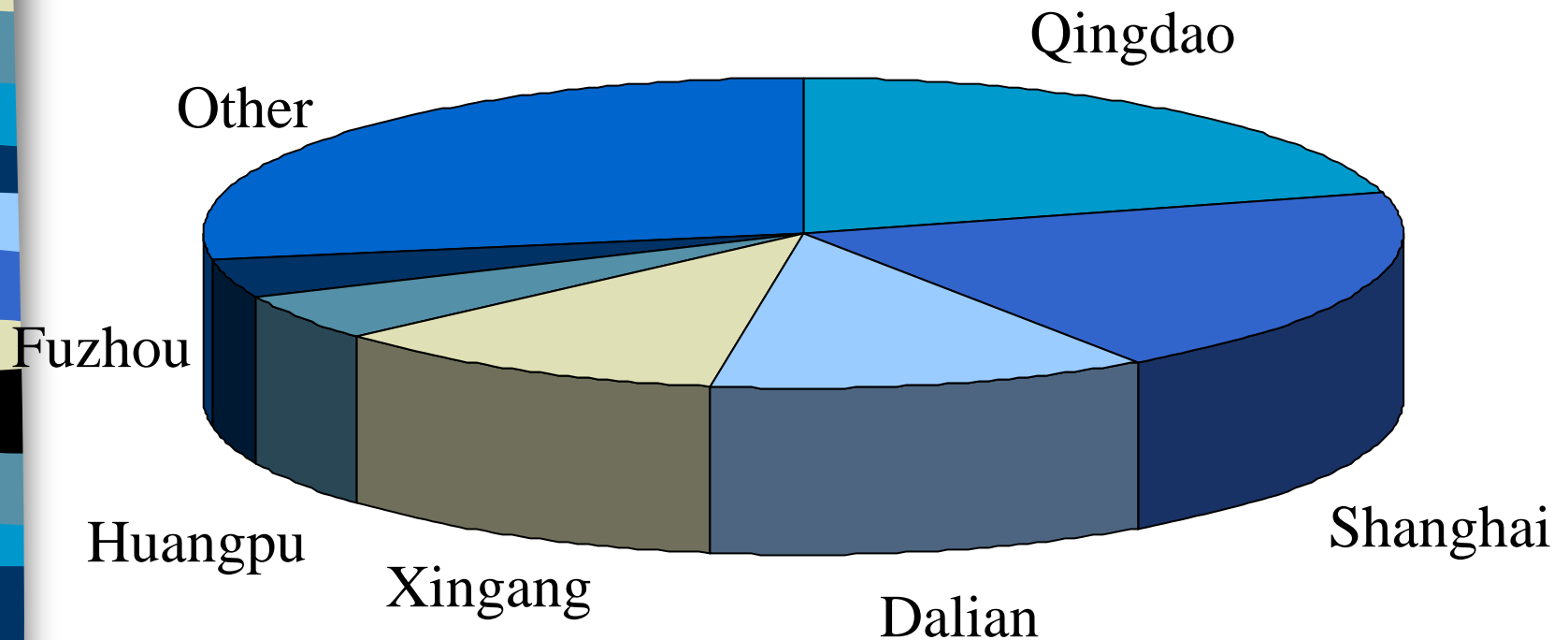


■ Hong Kong (80%)

■ Other Chinese ports (20%)

Source: *PIERS, Journal of Commerce, NY, 1999*

U.S.-to-China: Top Ports of Entry



■ Qingdao (21%) ■ Shanghai (20%) ■ Dalian (12%) ■ Xingang (11%)
■ Huangpu (5%) ■ Fuzhou (4%) ■ Other (28%)

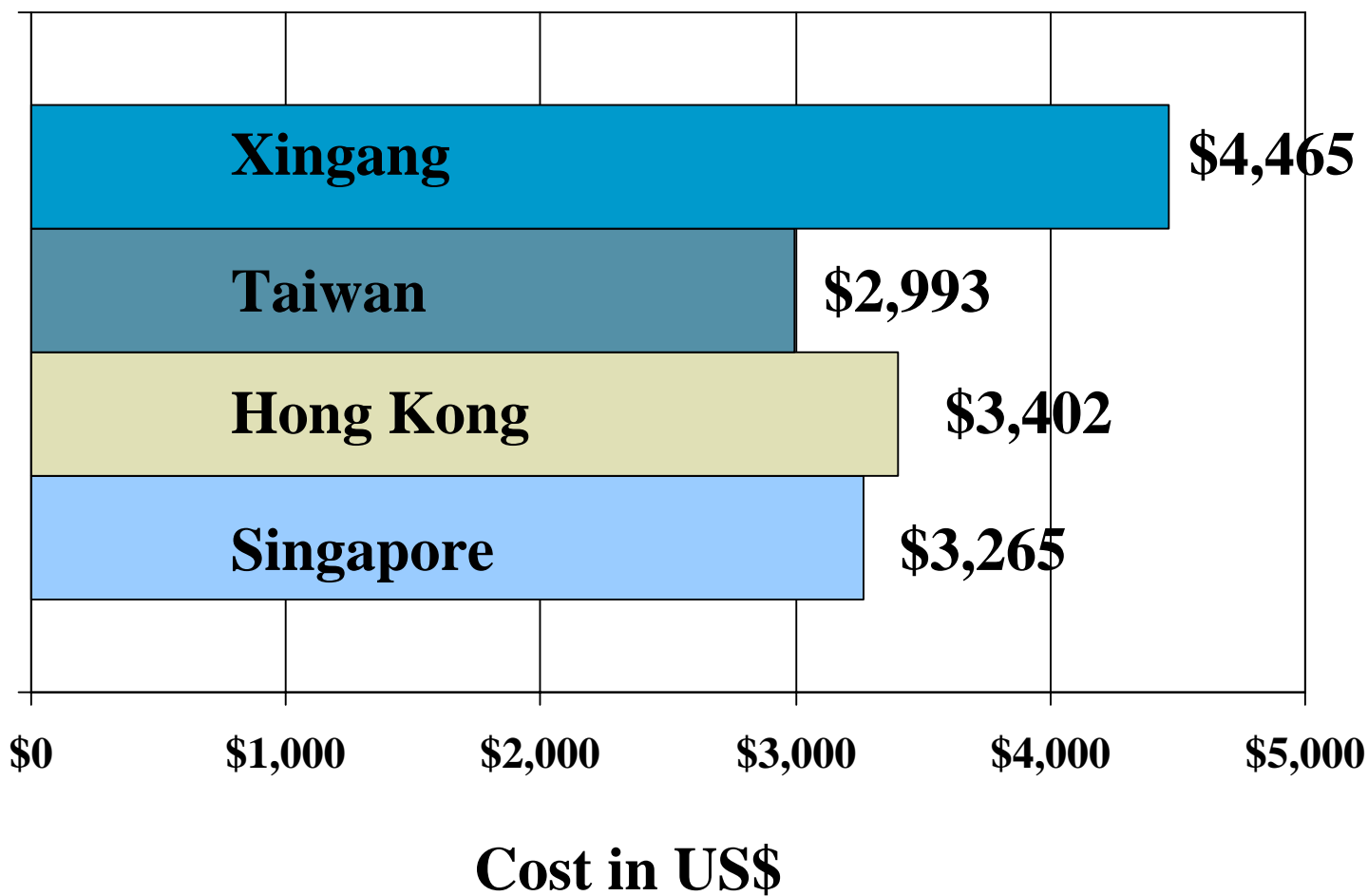
Source: PIERS, Journal of Commerce, NY, 1999

China's main container ports



Source: Containerisation International Yearbook

Ocean Freight Rates for Frozen Beef



Weighted average for one 40-foot container by market share of all carriers serving trade lane for this commodity based on tariffs filed by ocean carriers July 2000.

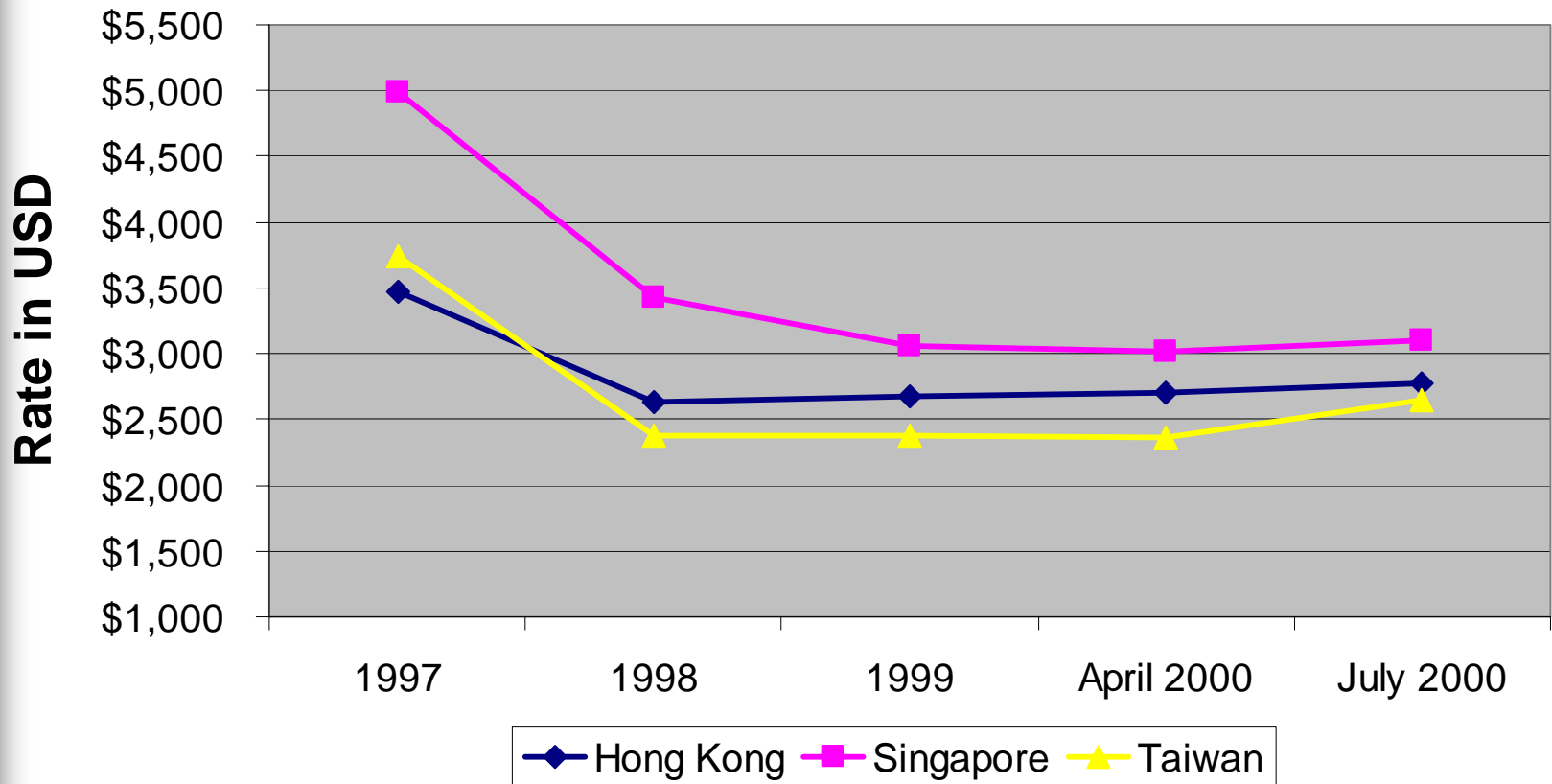


Comparison of Asian Apple Rates

Country	Apple rate July 2000	\$ difference than China rate	% difference than China rate	Distance (miles)	Cost per mile
Taiwan	\$2,645	-\$130	-4%	5261	\$0.50
Hong Kong	\$2,775	---	---	5635	\$0.49
Singapore	\$3,097	+322	11%	7014	\$0.44

Weighted average for one 40-foot container by market share of all carriers serving trade lane for this commodity based on tariffs filed by ocean carriers, July 2000.

Ocean Freight Rates for Fresh Apples U.S. to Asia



Weighted averages based on actual shipping line market share.

Fresh Apples: Seattle/Tacoma Ports to Hong Kong, China (*July 2000*)

Total CY2000: <i>553 TEU</i>	COSCO	Hyundai	Hanjin	NOL- APL	P&O Nedlloyd
Total April 2000: <i>52 TEU</i>					
Market share – <i>April 2000</i>	56%	12%	12%	8%	8%
Transit time	16 Days	14 Days	18 Days	13 Days	18 Days
Ocean rate (per ton)	\$2,460	\$3,100	\$3,060	\$3,260	\$2,900
Surcharges(s): BAF/container	N/A	N/A	\$220	\$220	\$220
Container rate (based on 18 tons or 840 pkgs/FEU)	\$2,460	\$3,100	\$3,280	\$3,480	\$3,120

*Notes: TEU=20-foot equivalent units for month/year;
BAF= Bunker (fuel) Adjustment Factor*